The Introduction of Multiple Micronutrient Supplementation Requires a Comprehensive Systems Approach

UNICEF’s support for high-burden countries in South Asia and sub-Saharan Africa

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Key messages

- Globally, maternal malnutrition and low birth weight trends show insufficient progress.
- Multiple micronutrient supplements (MMS) offer an important opportunity to improve the quality of pregnancy care and survival and development outcomes for women and children.
- Experiences across four countries show that MMS advocacy is facilitated by the use of global evidence, national data, cost-effectiveness analysis and alignment with national priorities.
- The introduction of MMS should be linked to the strengthening of relevant systems as well as to formative research so as to reach scale, quality and equity.
- Measuring and documenting success plays a critical role in informing adjustments to implementation approaches and guiding scale-up in other countries.

Introduction

Maternal nutrition is integral to the 1,000 days approach; yet global trends reveal insufficient progress in reducing the prevalence of maternal malnutrition and low birth weight. While strong evidence exists to support iron and folic acid supplementation (IFA), only 34 percent of pregnant women are covered.2 Antenatal care (ANC), the main delivery platform for maternal nutrition interventions, covers less than half of pregnant women in low- to middle-income countries as measured by the completion of at least four ANC visits (ANC4).3 Moreover, there are significant gaps between ANC4 and IFA coverage (90+ days).4

The systems approach

Introducing MMS is an opportunity to accelerate progress towards global goals and targets, and is an important component of UNICEF’s new Nutrition Strategy. Such an approach requires a well-functioning health system, in the absence of which, programs will face the same barriers currently impeding IFA coverage.

To address this constraint, UNICEF is adopting a systems approach to MMS scale-up in four high-burden countries (Bangladesh, Burkina Faso, Madagascar and Tanzania). The aim is to build operational experiences in scaling up MMS using strengthened ANC and community systems.

UNICEF is supporting this approach to MMS transitions as follows:

A prenatal consultation at Ambanintsena Health Center (Analamanga Region, Madagascar)
Women who received any IFA
Pregnant women with anemia (Hb < 11 g/dL)
Pregnant women who received any IFA
Pregnant women who received 90+ IFA tablets
Women who received 4+ ANC visits during pregnancy
Pregnancies resulting in low birth weight
Stunting among children < 5 years

Source: Demographic and Health Survey, Multiple Indicator Cluster Survey

1. A robust situation analysis drawing policymakers’ attention to the poor state of women’s diets and their poor nutritional status, and low birth weight. All four countries have high burdens of maternal and child undernutrition (Table 1).

2. Analyses of health system building blocks including delivery platforms, workforce, supply chains and commodities, and information systems as the basis of program strategies to introduce MMS. Analysis was undertaken of the adequacy of policies, regulations, coordination and financing. Studies of MMS production and procurement were undertaken to facilitate national ownership and sustainability. Commonly cited health system barriers include:

a. Weak ANC delivery platforms: access (distance) to services, inadequate organization of ANC, weak integration and prioritization of nutrition interventions.

b. Weak health workforce: inadequate numbers, high vacancies, high turnover, inadequate training and supervision, poor attitudes on the part of health workers.

c. Weak supply chains and frequent rupture in commodity availability for IFA and adult scales, anemia measurement instruments.

d. Weak health information systems: IFA coverage and counseling not routinely monitored, data not used to improve programs.

e. Social determinants: women’s knowledge, decision-making authority, perceptions and experiences of ANC, household and social barriers, such as beliefs about disclosing pregnancy and when to attend ANC, role of key influencers such as mother-in-law and husband.

3. Advocacy using global evidence supported the transition from IFA to MMS. The availability of MMS clinical trials in Bangladesh, Burkina Faso and Tanzania was instrumental in generating awareness among policymakers of the potential impact of MMS in their specific context.\(^4\)–\(^6\) Cost-effectiveness analysis conducted by Nutrition International estimated the disability-adjusted life-years (DALYs) to be gained by switching to MMS.\(^7\) In Tanzania, a national advocacy workshop with key stakeholders was influential in galvanizing government commitment for a comprehensive approach to maternal nutrition including MMS.

4. A core implementation package including MMS and enhanced nutrition counseling to improve nutritious diets, MMS adherence, appropriate gestational weight gain, and early and exclusive breastfeeding. Inclusion of other interventions follows national policies and local contexts.

5. ANC is the main delivery platform for MMS in all four countries and has strong links to community systems. In Burkina Faso, paid community health workers will counsel women on ANC attendance and MMS adherence, whereas ANC and community health workers will be responsible for MMS distribution and counseling in Madagascar.

6. Implementation design is guided by country-specific theories of change, addressing the enabling environment, and supply- and demand-side ANC and MMS barriers. Projects were designed with the goal of national-level scaling as opposed to research projects. For this reason, MMS has been integrated into ongoing maternal nutrition programs in all four countries. In Madagascar, MMS is embedded in a project funded by the World Bank that aims to improve the coverage of nutrition-specific interventions during the first 1,000 days. In Bangladesh, MMS will be distributed in the same districts where government and the World Bank are strengthening

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**TABLE 1: Selected maternal and child nutrition indicators from participating countries**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Percentage per country (year of survey)</th>
<th>Bangladesh</th>
<th>Burkina Faso</th>
<th>Madagascar</th>
<th>Tanzania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant women with anemia (Hb &lt; 11 g/dL)</td>
<td></td>
<td>49.6% (2011)</td>
<td>72.5% (2014)</td>
<td>38% (2009)</td>
<td>57% (2015)</td>
</tr>
<tr>
<td>Pregnant women who received 90+ IFA tablets</td>
<td></td>
<td>5.3% (2017)</td>
<td>50% (2010)</td>
<td>7.1% (2014)</td>
<td>21% (2015)</td>
</tr>
<tr>
<td>Women who received 4+ ANC visits during pregnancy</td>
<td></td>
<td>47% (2017)</td>
<td>38% (2017)</td>
<td>50.6% (2018)</td>
<td>51% (2015)</td>
</tr>
</tbody>
</table>
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Mechanisms have been established. In Tanzania, a technical advisory group has been established, whereas in Bangladesh the Maternal Nutrition Task Force will coordinate MMS-related activities supported by partners. Figure 1 illustrates a generic theory of change for the project.

7. Monitoring and knowledge generation. Success across countries will be measured by demonstrated increases in MMS coverage and adherence, and documented learning on the scaling up of MMS. MMS will be integrated into routine health information systems using the District Health Information Software 2 (DHIS2) in all four countries. In Burkina Faso, MMS will be introduced in the same districts selected to strengthen nutrition in the national health information system (ENDOS). Tanzania’s information system already generates semiannual data on IFA stock-outs, ANC and IFA coverage. In Bangladesh, individual-level pregnancy tracking will capture ANC and MMS coverage. Countries have also identified key implementation questions that will contribute to what constitutes successful MMS programming in other countries.

Country-level approaches are backed by global advocacy to support a systems approach, MMS market shaping and program evidence for future MMS scale-up. In partnership with Sight and Life, UNICEF is supporting situation analyses of MMS production and procurement in all four countries (on pages 49–53 of this Special Report). The partnership also covers formative research (on pages 54–57 of this Special Report) focused on identifying factors for demand generation and adherence. Links have been created with other global and regional initiatives to strengthen primary healthcare and community systems, pregnancy quality of care and regional platforms for economic cooperation.
Moving forward
UNICEF’s systems approach to scaling up MMS in four high-burden countries can provide important learnings about what constitutes successful MMS programming and inform further scaling up in other countries.

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References
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